

APPARATUS AND METHOD FOR ALLOCATING WALSH CODES TO  
ACCESS TERMINALS IN AN ADAPTIVE ANTENNA  
ARRAY CDMA WIRELESS NETWORK

5

ABSTRACT OF THE DISCLOSURE

An apparatus for allocating orthogonal codes used for downlink transmissions to wireless access terminals for use in a base station of a code division multiple access (CDMA) wireless network.

The base station communicates with the wireless access terminals using transmit beams formed by an adaptive antenna array. The apparatus comprises: 1) a database for storing  $R$  active wireless terminal records, each of the  $R$  active wireless terminal records containing: a) an active orthogonal code and b) corresponding downlink beamforming coefficients used to communicate with one of the wireless access terminals; and 2) a controller associated with the database that receives a notification that a new wireless access terminal is accessing the base station and, in response to the notification, compares each of the  $R$  active wireless terminal records to new downlink beamforming coefficients associated with the new wireless access terminal. The controller determines at least one active wireless terminal record containing corresponding downlink beamforming coefficients that have the least correlation with the new downlink beamforming coefficients.